Oral presentations

Computed tomographic features and treatment of extensive intermuscular abscessation in a German shepherd dog with systemic lupus erythematosus

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OBJECTIVES

To describe the computed tomographic (CT) features, diagnosis, and treatment of a dog with systemic lupus erythematosus (SLE) that developed intermuscular abscessation following stifle arthrocentesis.

METHODS

A previously unreported complication of stifle arthrocentesis is described.

RESULTS

A 4-year-old, male, neutered German shepherd dog was presented for non-weight bearing right pelvic limb lameness, swelling, and pain. Three weeks prior, the dog was diagnosed with SLE based on the presence of fever, non-septic suppurative polyarthritis (via stifle joint synovial fluid analysis), and a positive antinuclear antibody titre. Pre- and post-contrast CT studies of the pelvis and pelvic limbs showed an extensive, ill-defined and non-contrast enhancing fluid-attenuating region in the fascial planes, dissecting between the musculature of the right caudal thigh and cranioproximal crus. The adjacent muscular margins were mildly contrast enhancing. There was marked increased synovial volume of the right stifle joint. Ultrasound-guided sampling of the intermuscular fluid and bilateral stifle arthrocentesis confirmed septic suppurative inflammation and yielded *Streptococcus canis* on aerobic culture. Amoxicillin/clavulanic acid was prescribed along with a physiotherapy regimen for a total of eight weeks. Clinical signs completely resolved 13 days after initiation of therapy. There was no recurrence of the pelvic limb abscessation.

STATEMENT (CONCLUSIONS)

Iatrogenic inoculation of bacteria into the stifle joints and right pelvic limb soft tissues likely occurred during prior arthrocentesis. A combination of CT, cytology and bacterial culture testing aided in successful diagnosis and treatment of the intermuscular abscessation.

Contrast Enhancement in Cervical Spinal Nerve Roots on Magnetic Resonance Imaging Independent of a Causative Lesion

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OBJECTIVES

To assess the prevalence of cervical spinal nerve root contrast enhancement on magnetic resonance imaging (MRI) with no corresponding underlying lesion.

METHODS

Retrospective review of image sequences in dogs undergoing cervical MRI from 2006–2019. T1 transverse pre- and post-contrast sequences were examined and individual nerve root contrast enhancement recorded by a board-certified radiologist. Clinical records were reviewed and diagnoses along with lesion location were correlated with nerve root contrast enhancement. Diagnoses were classified according to the VITAMIN-D mnemonic. The enhancement was subjectively classified as correlated to the diagnosed disease process or not by a board-certified neurologist.

RESULTS

58 dogs were included (31 breeds). Median age was 84 months (range 5–165). 68% of cases presented with neck pain and/or tetraparesis. 42% of diagnoses were classified as degenerative, with the next largest group being neoplastic (20%). At least one contrast enhancing nerve root was recorded in 96.6% (56/58) of cases. Of the cases with identified contrast enhancing nerve roots 46.4% (26/56) of those did not have a corresponding lesion.

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STATEMENT (CONCLUSIONS)

Cervical nerve roots frequently contrast enhance on MRI. Of the nerve roots that contrast enhance a large

proportion of them have no corresponding lesion. More research is needed however to better understand the implication of this.

Accuracy of radiographic diagnosis of pneumoperitoneum in the dog and cat

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OBJECTIVES

Radiography is commonly included in the diagnostic investigation of animals with suspicion of gastrointestinal perforation, but the resultant pneumoperitoneum can be hard to detect. This study aimed to identify (1) the accuracy of radiographic diagnosis of pneumoperitoneum and (2) determine if observer experience affected accuracy.

METHODS

This retrospective case-controlled study evaluated dogs and cats with abdominal radiographs and either surgical or computed tomographic confirmation of

pneumoperitoneum (cases) or peritonitis without pneumoperitoneum (controls).

Radiographs were reviewed by a board-certified radiologist, an imaging resident, an experienced general practitioner and a veterinary student.

Accuracy, sensitivity and specificity were calculated for all observers. Agreement between observers and with final diagnosis was assessed with Cohen's kappa. Sensitivity and specificity between observers were compared using the McNemar test.

RESULTS

Radiographic studies from 60 dogs and 8 cats were evaluated; 34 animals had confirmed perforation. Accuracy was fair to excellent for all observers; student 61.8%, general practitioner 70.6%, resident 83.8%, radiologist 85.3%. There was no significant difference in sensitivity between observers (all between 70.6–85.3%); however, there was a significant difference in specificity between both the resident (91.2%) and radiologist (91.2%) and the student (52.9%) ($P < 0.001$) and the general practitioner (55.9%) ($P = 0.002$). Overall there was slight to substantial agreement between observers (kappa 0.251–0.731), with highest agreement between the radiologist and resident.

STATEMENT (CONCLUSIONS)

Abdominal radiography, when interpreted by veterinarians with differing experience, has variable accuracy for diagnosis of pneumoperitoneum. Less experienced observers tend to over-diagnose pneumoperitoneum, with resultant high sensitivity but low specificity.